

## **Conservation Tillage Adds Pounds to High Cotton Winner Production**

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By Ron Smith

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Mike Tyler never expects his reduced tillage cotton yields to equal production from traditional fields. He expects it to be better. And he's rarely disappointed. He'll average more than three bales per acre most years and some fields push five bales.

Tyler, who farms in several counties near Lamesa and Seminole, believes in eliminating as much tillage as possibly, using a cover crop to protect soil from wind and water erosion, applying irrigation water as efficiently as possible and making the highest yield of the best quality cotton he can grow.

His efforts earned him the 2005 Southwest Farm Press High Cotton Award. Tyler will receive the annual award, now in its 11th year, at a breakfast during the 2005 Beltwide Cotton Conferences in New Orleans.

Tyler is no newcomer to reduced tillage systems. He began cutting back on cultivation before the advent of Roundup Ready cotton varieties. "But herbicide resistant technology certainly has made it easier," he says. He uses both Roundup Ready and Liberty Link cotton varieties and never puts a plow in irrigated fields after planting, "unless we have some kind of chemical breakdown or something else goes amiss. I have a John Deere minimum till cultivator that I now use only to build beds."

"Minimum tillage is my preferred way to plant," Tyler adds. "Old crop stubble stays in place most of the year, so I don't see soil washing out of my fields with hard rains. I preserve a lot of soil with reduced tillage."

He goes so far as to keep corners that irrigation systems miss in CRP. "I rarely raise a crop in corners," he says. "Everything I do is geared to

Take advantage of irrigated acreage and to protect the irrigated crops." He irrigates 80 percent of his cotton and peanut acreage. Tyler likes peanuts for rotation and usually runs 25 percent peanuts and 75 percent cotton.

I'm about 50/50 this year because the price of peanuts was just so much better," he says. "I have about 1,200 acres of cotton and 1,200 in peanuts. That's unusual. I usually prefer a four-year rotation on peanut land. "

Tyler's system begins as soon after cotton harvest as possible. "I leave cotton stalks standing and drill wheat in between the furrows, four rows of wheat. That's all I do in the fall. I don't disturb the land again until the first of April, when I shred stalks to about three to five-inches tall. "

He uses a rolling cultivator on top of the beds, where the stalks were. He doesn't list anything anymore. "I add a yellow herbicide in a 16-inch band." By early April the wheat cover crop is 12 to 16 inches tall. "Blowing sand is not a problem with the cover," he says. Tyler pointed out a row of sand fighters in his equipment yard that he rarely uses any more.

He says with a strong wheat crop he may need another herbicide application and possibly another trip with the rolling cultivator to manage the residue. "I often double up with the rolling cultivator and an herbicide application. I also apply my single biggest shot of fertilizer at this time. I go heavy with potash, phosphorus and micro nutrients."

He uses a John Deere 4710 spray rig to handle early-season weed control, "Usually a week behind fertilization. I usually apply Roundup at a one-quart rate."

He likes to plant cotton from April 25 until May 5. He then may apply a shot of Staple and Roundup through his spray rig. He puts out nitrogen fertilizer through the pivot. He's also been frugal with water resources. He says one large field, about 400 acres, typically made two-bale cotton. He divided the field in half, left one half out of production and in wheat stubble and planted cotton on the other half.

"I'm making four bales per acre and using less water. I get higher production and that may be a factor in being able to farm that land, with limited water, for another 10 years." Tyler says cutting back to half a circle also gives him leeway to take advantage of technology. He

says he can afford the investment on potential four-bale cotton but could not justify the expense with just two bales per acre.

Tyler says some years, minimum-till production may require more water than conventional cotton, but over the long term, he's convinced that reduced tillage builds water resources. "With a cover crop, some years we water wheat to get it up and water it in the winter to keep it going. But with normal rainfall, the cover helps hold moisture in the field. "

He has irrigation nozzles set 80 inches apart and just a few feet above the soil surface. "I irrigate when the crop needs it," he says.

He prefers to water heavily and then rest the system, his labor and himself. "With capacity for 750 gallons per minute, I adjust the system to apply one-and-one-half inches at a time. I run the system four or five days a week and then rest it, and us, over the weekend."

"With a 400 to 500 gallon irrigation system, I run seven days a week. I don't have the luxury for a breakdown with the smaller package. But when I can irrigate five days a week, I have time to catch up if I have a problem. Also, the wells have a chance to recharge some. "

Tyler says his farms benefited from some 25 inches of rain during the 2004 growing season. "But we got about half of that around planting time and the other half at harvest time. (When we interviewed Tyler in late October, harvest was some three weeks behind schedule because of cool temperatures in August, September and October along with higher than normal rainfall. Those conditions persisted well into November.) "We applied from 10 to 12 inches of water through irrigation," Tyler says.

He's convinced that reduced tillage has been a big factor in boosting yields from a two-bale average to better than three bales, with some fields routinely bettering five bales. But he also credits better varieties with improved production and quality. He's currently planting mericot, Stoneville and FiberMax cotton.

"Yields the past few years have averaged three-and-a-half bales per acre," he says. "I've made five bales three times where I have better water. "Five bale cotton means you have to get all your ducks in a row," he says. "And Mother Nature has to cooperate. Still, five-bale cotton in the Southern Plains is not a pipe dream. My tillage system also helps."

He's also selective about land. "I put a lot of land in CRP," he says. "It just makes sense to take that land out of cotton. I choose small and odd-shaped fields for CRP and put all my corners in as well. "

He's equally committed to reduced-tillage peanuts. "I don't cultivate peanuts. I spray a lot, use 2,4-DB a good bit and with heavy weed pressure I may hoe." Tyler is part owner of the Oasis Gin in Gaines County. "We ginned the largest number of bales of any gin in Texas last year," he says. "We ran 84,637 bales through and that was the second time we earned the honor. We ginned 68,394 bales in 1999." He expects the gin will handle 100,000 bales from the 2004 crop, expected to be a state record cotton year.

He's also working to improve quality. "The last few years we've seen some of the best quality ever," he says. "Part of the reason is better varieties. We're getting longer staple than we used to with standard stripper cotton varieties. But we take some risks with picker-type cotton. We can lose a lot of it in a just a few hours but it's a better option for production and quality. We get a better price for it. " He says grades have been up, too. "We've had better grades because it's been dry. We've ginned a lot of white cotton. "

He expects that trend to take a slight dip with the 2004 crop. "I'll be surprised if we don't fall off a point or two," he says. He expects delayed maturity and rain at harvest to hurt grades.

Tyler says farmers have to decide for themselves whether reduced tillage will fit on their farms. He's sold on it and says about the only fields he doesn't use some sort of reduced-tillage system in are fields he's farming for the first time.

"I may have to farm it a year to get it straightened out enough so minimum-till will work," he says. "It's a hard sell to some folks, especially for a cover crop. But for me, reduced tillage means less time, fewer inputs and more yields. "